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ABSTRACT

The study involving 67 learning disabled (LD) children (grades 1 through 8) was designed to track the developmental course of the understanding of the more subtle forms of feedback (i.e., facial expression), to examine LD children's understanding of nonexplicit requests for clarification relative to that of normal achieving children, and to explore how individual differences in children's understanding of conversational rules may be related to measures of the more general perceptions. Children's locus of control was identified using the Intellectual Achievement Responsibility scale and the Crandall scale, and children's understanding of different types of feedback was examined via the classic referential communication task requiring the child to describe each of a series of abstract figures to an adult female experimenter so that she could find the picture being described from a large array of the same pictures. Results indicated that whether children respond to requests for clarification is related both to their personal characteristics and to the explicitness of the feedback. The prediction that LD children would be less responsive to facial feedback than control children was confirmed only for young LD girls. (SBH)

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LEARNING DISABLED AND NORMAL CHILDREN'S RESPONSES TO REQUESTS FOR CLARIFICATION WHICH VARY IN EXPLICITNESS

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It is a common occurrence for one conversational partner to indicate to another that he does not understand something that has been said. He has a wide range of alternatives for doing this, for example by saying, "Run that by me again," "I don't get it," or even by scratching his head and looking puzzled. This type of feedback, which other researchers have variously called requests for clarification, revision behavior (Gallagher, 1977, 1976), and contingent queries (Garvey, 1977) ideally indicates to the speaker that he should reformulate his initial utterance. Responsiveness to these requests for clarification is obviously important to the smooth flow of the conversation.

Both normal and language impaired children's responses to naturally occurring requests for clarification have recently been considered a fertile site for investigating both the ability to paraphrase and the understanding of conversational rules for repairing communicative breakdowns. Studies of these episodes occurring in spontaneous conversation suggest that even very young children respond to requests for clarification like "huh?" or "what?" with a revised utterance (Gallagher, 1977a, 1977b: Garvey, 1977). However, studies in laboratory settings suggest that there may be developmental changes in the understanding of communicative failure. For example, studies by Glucksberg and Krauss (1967) and Jarvis (1968) found that the frequency with which children produced a new message in response to feedback indicating the inadequacy of their initial message increased with age.

Research by Peterson, Danner, and Flavell (1972) suggests that developmental changes in children's understanding is related to the explicitness of the request for clarification. The 4 year old children in their study were able to give another message when explicitly told to do so; however, when told only that the listener did not understand, the 4 year olds were less likely than

the 7 year old subjects to give a new message. Neither the 4 year olds nor the 7 year olds were likely to produce a new message in response to a puzzled facial expression.

The study I am reporting represents a further examination of children's responses to requests for clarification varying in explicitness. In this study, our focus was not on the content of children's descriptions, that is, on the issue of whether they repeated or how they reformulate their utterance after feedback. Rather, our interest was in determining whether the children even understood that the different types of feedback required a second response from them. One purpose of the study was to track the developmental course of the understanding of the more subtle forms of feedback. Few of the 7 year old children in the Peterson, Danner, and Flavell study responded with a new clue to facial expressions indicating noncomprehension. At what point do children interpret a puzzled facial expression as an indication of the need for more information?

A second purpose of the study was to examine learning disabled children's understanding of non-explicit requests for clarification relative to that of normal achieving children. Findings that learning disabled children tend to be socially rejected by their classmates (Bryan, 1974; Scranton & Ryckman, 1979) suggest that one source of their social difficulty might be an inability to understand others' feedback. A study by Bryan and Pflaum (1978) provides further support for the hypothesis that learning disabled children may have deficits in the understanding of the rules of conversational interaction. Learning disabled and non-disabled 4th and 5th graders were asked to teach a game to a same-aged classmate and to a kindergarten-aged child. The learning disabled children were found to be less sensitive to the age difference of their listeners than normal children. Learning disabled children did not appear to take into account the

instructional needs of their listeners, and learning disabled males failed to vary the syntactic complexity of their speech according to listener age. Learning disabled children were also more likely to give ambiguous or inaccurate information than normal children.

In addition to demonstrating difficulties in verbal interaction, learning disabled children have been found to be less skillful than normally achieving children in understanding nonverbal behavior. For example, Bryan (1977) found that learning disabled children were less able to interpret the nonverbal behavior of a videotaped adult than were non-disabled children. Wiig and Harris (1974) found that learning disabled adolescents made more errors than non-disabled controls in identifying emotions portrayed in videotaped pantomimes of a variety of emotional expressions. These results suggest that learning disabled children's difficulty in comprehending non-verbal behavior might be manifested in an inability to interpret non-explicit requests for more information. Thus, it was hypothesized that learning disabled children would be less likely than normal children to respond to subtle expressions of communication breakdown from a listener.

A final purpose of this study was to explore how individual differences in children's understanding of conversational rules may be related to measures of their more general perceptions of the world. As Peterson, Danner, and Flavell suggest, an appropriate response to a request for clarification entails not only that the child understand that there has been a communicative breakdown but also that conversational rules now place the responsibility for repair squarely on him. The implicit request "I don't understand" signals that there has been a breakdown, but, unlike the explicit request, does not make clear to the child that the conversational ball in now in <u>his</u> court and that he has an obligation to try again. Thus, this request is ambiguous in terms of which conversational

partner is responsible for the communicative breakdown. It was hypothesized that children who tended to believe that failures in general were the result of their own actions would be more likely to respond to indications that they had not been understood than would be children who believed that failures were due to other people or other such external causes. These distinctions are made by the personality construct of locus of control, which describes whether individuals feel that outcomes are the consequence of their own actions, or are due instead to factors beyond their personal control. A belief in internal control indicates that outcomes are perceived as a result of one's own effort and ability; a belief in external control reflects the perception that outcomes are the result of others, luck, task difficulty, or other factors over which the individual has no influence. Thus, it was expected that children who were more internal in failure situations would be more likely to respond to this type of feedback.

Method

Subjects

Subjects were Chicago parochial school students in grades 1 through 8 who were selected for participation in the study on the basis of teacher ratings, intelligence test scores, and reading achievement scores. Subjects defined as learning disabled were 67 children who were rated by teachers as having difficulty in reading, attention, verbal skills, or in following directions and whose reading level on achievement tests fell below the 4th stanine or the 40th percentile for their grade. Control subjects were 60 children who received average or above teacher ratings and reading achievement scores above the 4th stanine or 40th percentile. The SRA reading achievement test was used to classify most of the children; however, scores on the reading subtest of the Woodcock-Johnson Psycho-Educational test battery, which was individually administered to all

children, were used for children for whom SRA scores were available. In addition, the Peabody Picture Vocabulary Test was individually administered to all children. The mean IQ score, as measured by the Peabody, of the learning disabled children was 109; their mean Woodcock-Johnson reading test grade percentile was 22.44. The mean IQ score of the nondisabled children was 114; their mean reading test grade percentile was 65.85.

Procedure

Locus of Control Measure

To identify the children's locus of control, children in grades 3 through 8 were administered the Intellectual Achievement Responsibility (IAR) scale - the Crandall scale - (Crandall, Katkovsky, & Crandall, 1965) in their classrooms several months before the next phase of the study took place. This scale uses a questionnaire format to measure children's perceptions of control in academic-intellectual situations. For each of a series of outcomes, a pair of possible reasons, one internal and one external, is presented. Children are asked to indicate which of the causal factors they think would be more responsible for the outcome. For example, one question asks:

> Suppose you are showing a friend how to play a game and he has trouble with it. Would that happen
>
> (a) because he wasn't able to understand how to play (i.e., an external cause), or
>
> (b) because you couldn't explain it well (i.e., an internal cause)

The scale yields 2 subscales indicating perceptions of control for successful outcomes, and for unsuccessful outcomes. To prevent the children's reading ability from influencing their understanding of the questions and to standardize the presentation of the scale, a tape recording of the items was played during its administration.

Referential Communication Task

To examine children's understanding of different types of feedback, children were individually brought to an experimental trailer to participate in a task that was a modification of the paradigm used by Peterson, Danner, and Flavell. It was the classic referential communication task requiring the child to describe each of a series of abstract figures to an adult female experimenter so that she could find the picture being described from a large array of the same pictures. These highly encodable figures were used because they allowed the children to come up with a variety of descriptions for each picture. However, to make certain that all children could come up with alternative descriptions for the figures, they were asked before the task began to give 2 descriptions for 4 of the figures used in the task. All children were able to think of a second description of the figures.

The children were then told that the task was a game in which their job was to describe each picture so that the experimenter could find the picture from among her cards. They were told that we wanted to see how many clues were necessary for the experimenter to find the picture, so they were to first give only one clue. After giving a description, they were to decide, without asking, whether the experimenter needed another clue. If they decided the experimenter needed more help, then they were to give her a new clue.

After each description given by the child, the experimenter responded in one of four ways: (1) by selecting the correct picture from her array; (2) by responding with explicit instructions to "Look at it again. Tell me something else about it."; (3) by giving an implicit request for more information by saying, "I don't understand"; or (4) by responding with a puzzled facial expression, making sure that she established eye contact. The four feedback types were delivered in a random order within each quartile of the experiment.

The sessions were videotaped through a one-way mirror. The videotapes were later viewed by a research assistant, blind to the group status of the children, who recorded whether they appropriately responded to feedback. Any verbal response indicating that the child understood that he or she was expected to provide another message was coded as appropriate, e.g., a second description, a modification of the first description, or even the statement, "I can't think of another clue." Inter-rater reliability, assessed on 15% of the session, was 100%.

Results

For purposes of analysis, data from children in adjacent grades were combined, resulting in 4 levels of grade. In order to evaluate whether IQ scores had an effect on the results, an analysis of covariance with PPVT scores as a covariate was performed. The covariate was not significant; therefore, it was dropped and analyses of variance with the between factors of grade, sex, and group, and the repeated factor of feedback type were performed.[1] Significant effects were further examined by Duncan's Multiple Range Test. Differences that I report all meet at least the .05 level of significance.

Developmental changes in responsiveness to the different types of feedback were indicated in an interaction of grade x feedback type. Even the youngest children were able to respond to explicit and even implicit requests for more information. Responsiveness to facial feedback, however, did increase with age. Duncan tests showed that children in grades 1 through 4 were less likely to respond to the facial feedback than they were to either the explicit or implicit feedback. Children in grades 5 & 6 were as likely to respond to the facial feedback as they were to the implicit feedback, but were less likely to respond to the facial feedback than they were to the explicit feedback. In other words,

their performance differed only between the facial feedback and the explicit feedback. Finally, in grades 7 and 8, children were equally likely to respond to all 3 types of feedback.

Differences in responses by learning disabled children and control children were reflected in a group x grade x sex x feedback type interaction. Further examination of this interaction by Duncan tests indicated that the learning disabled and control children differed only in their responses to facial feedback, and only in the first and second grades. In these grades, learning disabled girls were less likely to respond to facial feedback than were nondisabled girls. Surprisingly, however, learning disabled boys were more likely to respond to the facial feedback than were the nondisabled boys.

Finally, the scores of children in grades 3 through 8 indicating their belief in internal control on the locus of control scale were correlated with their understanding of the implicit feedback. The influence of grade, academic status, and sex on this correlation were first tested; because these had no significant effect they were dropped from the final analysis. The result indicated that responsiveness to implicit feedback, that is, to the statement of "I don't understand," was significantly related to a belief in internal responsibility for failure ($r = .20$, $df = 82$; $p < .05$, one-tailed test).

Discussion

The results of this study indicate that whether children respond to requests for clarification is related both to their personal characteristics and to the explicitness of the feedback. First, of all, developmental changes in sensitivity were apparent in these data. While even the youngest children in this study like the 7-year-olds in the Peterson, Danner & Flavell study, responded to the explicit and the implicit feedback, it was not until the 7th

or 8th grade that the facial feedback acquired the functional equivalence, the "illocutionary force" if you will, of the explicit and implicit requests. While the actual age at which children learn to comprehend facial feedback may vary, these findings suggest that the understanding of much subtle, nonverbal feedback may develop relatively late. This was the case even though the younger children were not less likely to make eye contact with the experimenter.

The prediction that learning disabled children would be less responsive to facial feedback than control children was confirmed only for young learning disabled girls. In fact, the learning disabled boys in the first and second grades were more likely than the control boys to respond to facial feedback. While these results were not expected, there is some evidence that suggests that learning disabled boys and girls may elicit different reactions from adults and from other children. In a study by Bryan & Perlmutter (in press), female adults viewed brief videotapes of normal and learning disabled children in conversation with another child and then completed a questionnaire designed to measure their immediate impressions of the children. Although the judges were blind to the children's group status, they had a more negative impression of the physical and emotional attributes and sociability of learning disabled girls than of nondisabled girls. However, there were no differences in their perceptions of learning disabled and control boys. Sociometric studies examining children's popularity with their classmates have found that learning disabled girls are more rejected than either learning disabled boys or non-disabled children (Bryan, 1974; Scranton & Ryckman, 1976). These different reactions to learning disabled boys and girls may both be a response to real differences in their social and communicative skills and a factor producing other differences. In other words, a child's inability to interpret subtle feedback from others may result in social rejection, which in turn affords

fewer opportunities for the child to enhance his conversational skills through social interaction with others. Why the young learning disabled boys should be more sensitive to nonverbal feedback than nondisabled boys, however, is a question that cannot be answered without further research.

Finally, the data in this study indicate that responsiveness to certain types of feedback may depend on personality factors as well as age and academic status. When feedback clearly indicated that the experimenter did not understand which picture was being described, but did not spell out that a response was required from the child, children who had a tendency to feel that their own actions are responsible when a failure occurrs were more likely to respond than were children who tended to believe that the causes of failure were out of their control. Although the relationship was not especially strong, the children's locus of control did predict their responsiveness to implicit feedback while their grade, sex, and academic status did not. Other studies have established a relationship between attributions for failure and persistence in academic tasks (Dweck & Reppucci, 1973) and in social situations (Goetz & Dweck, 1979). This study indicates that children's beliefs about failure may also influence their conversational behavior.

This study attempted to explore some possible relations between personality dimensions, developmental level, academic status, and the understanding of the rules of conversational turn-taking. The findings suggest that our understanding of individual differences in conversational competence will be incomplete without a consideration of these variables.

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The few instances where the experimenter was unable to establish eye contact when giving facial feedback were eliminated from the analyses. These infrequent failures to look at the experimenter did not appear to vary systematically by grade, group, or sex. Further, an analysis of the latency from the subjects' first clue until the establishment of eye contact indicated no grade, group, or sex differences in the speed of looking to the experimenter.